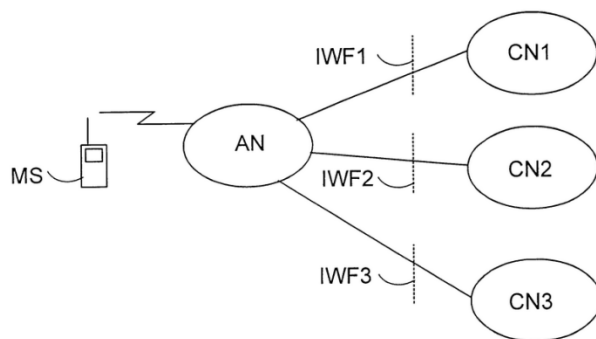


Core filed an Opening Claim Construction Brief (Doc. No. 122). Apple filed a Responsive Claim Construction Brief (Doc. No. 127) addressing some of the arguments raised by Core. Thereafter Core filed a Reply to a narrow subset of Apple’s arguments (Doc. No. 134). Additionally, the parties submitted a Joint Claim Construction and Prehearing Statement (Doc. No. 108), including a Joint Claim Construction and Chart attached as Exhibit 1 (Doc. No. 108-1). A *Markman* Hearing was held on October 3, 2013 (Doc. No. 142 “10/03/13 Hr’g Tr.”).

Additionally, Apple filed a Motion for Partial Summary Judgment of Invalidity of Claim 9 of U.S. Patent No. 6,266,321 is Based On 35 U.S.C. § 112 ¶2 (Doc. No. 126).<sup>1</sup> The Motion for Partial Summary Judgment was denied. *See* Doc. Nos. 182, 196.

### THE PATENTS

The patents-in-suit generally related to cellular communications. The ‘277 Patent involves maintaining a control signalling connection between a cellular telephone access network and at least one core network, such that “the connection between the access network and the [cellular telephone] is not released between substantially successive control signalling between at least one core network and the [cellular telephone].” ‘277 Patent col. 2:62–65. Figure 1 of the ‘277 Patent details the relationship of the cellular telephone (“MS”) to the access network (“AN”) and more than one core network (“CN1,” “CN2,” and “CN3”).



The ‘022 Patent, and its continuation, the ‘664 Patent, describe filtering the signal of mobile equipment (“ME”), such as a cell phone, to account for the various conditions experienced by a particular ME as it travels through different areas. This is done using a “forgetting factor,” which is used to discount the importance of certain older data relating to older conditions, when appropriate. The ‘022 and ‘664 Patents disclose two ways for altering the “forgetting factor”: (1) “adjusting the default value of [the forgetting factor];” or (2) replacing

<sup>1</sup> At the *Markman* hearing Apple represented that “we’re content to stand on our papers on indefiniteness.” 10/03/13 Hr’g Tr. 117:18-18.

the forgetting factor by computing a new forgetting factor with ME specific data. ‘022 Patent col. 6:52–53; *see id.* col. 59–57.

The ‘143 Patent details the ways in which a cell phone, rather than a base station, may determine whether to use a dedicated channel or a common channel for packet data transfer. *See* ‘143 Patent col. 3:53–4:18.

The ‘959 Patent details mobile phone “preconfiguration parameters” used by mobile phones in connection with being handed over from one network to another. *See* ‘959 Patent col. 1:21–31. “For what are called hardcoded or static preconfigurations, standards specify the preconfiguration parameters.” *Id.* col. 1:31–36 . “In addition to static preconfigurations, [there are also] dynamic configurations.” *Id.* col. 1:43–47. “Unlike for static preconfigurations, the sets of preconfiguration parameters making up a dynamic configuration . . . must be provided to the mobile [phone] dynamically, i.e. at or near the time of handover” from one network to another. *Id.* col. 1:53–57.

The ‘860 Patent involves the encrypted transmission of data related to mobile phone services to mobile phones. ‘860 Patent col. 3:43–47.

The ‘850 Patent describes the reduction of congestion on networks using autonomous transmissions. ‘850 Patent col. 3:26–60–47.

### **APPLICABLE LAW**

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). In claim construction, courts examine the patent’s intrinsic evidence to define the patented invention’s scope. *See id.*; *C.R. Bard, Inc. v. U.S.*

*Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). This intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as understood by one of ordinary skill in the art at the time of the invention in the context of the entire patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can also aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *see also Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.* Also, the specification may resolve ambiguous claim

terms “where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone.” *Teleflex, Inc.*, 299 F.3d at 1325. But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.” *Comark Commc’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); see also *Phillips*, 415 F.3d at 1323. The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) (“As in the case of the specification, a patent applicant may define a term in prosecuting a patent.”).

Although extrinsic evidence can be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition is entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.*

The patents-in-suit also contain means-plus-function limitations that require construction. Where a claim limitation is expressed in means-plus-function language and does not recite definite structure in support of its function, the limitation is subject to 35 U.S.C. § 112 ¶ 6. *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997). In relevant part, 35 U.S.C. § 112(f) “mandates that such a claim limitation ‘be construed to cover the corresponding structure . . . described in the specification and equivalents thereof.’” *Id.* (quoting 35 U.S.C. § 112 ¶ 6). Accordingly, when faced with means-plus-function limitations, courts “must turn to the written description of the patent to find the structure that corresponds to the means recited in the [limitations].” *Id.*

Construing a means-plus-function limitation involves multiple inquiries. “The first step in construing [a means-plus-function] limitation is a determination of the function of the means-plus-function limitation.” *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). Once a court has determined the limitation’s function, “[t]he next step is to determine the corresponding structure described in the specification and equivalents thereof.” *Id.* A “structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *Braun*, 124 F.3d at 1424.

### CLAIM CONSTRUCTIONS

**“one or more core networks”** (‘277 patent, claims 1 and 27)

Core proposes “[i]n a telecommunication system with only one core network, the one core network is integrated to be responsible for several different services, such as circuit- and packet-switched connections.” Doc. No. 108-1 at 11. Apple proposes “plain meaning / no construction necessary.” *Id.* The party’s primary disagreement concerns whether a disclosed embodiment for one core network will be imported into the term “core network,” such that “core

network” means something different when only one core network is available as opposed to when two core networks are available. *See* Doc. No. 127 at 3-4 (Core “argues that the requirement of multiple ‘different services’ should be read into the claim to give effect to the alleged point of novelty and to preserve the validity of the claims.”); *see also* Doc. No. 122 at 6-7.

The specification characterizes the invention in a manner broader than the embodiment Core seeks to import. Specifically, the use of the term “core network” in the specification conforms to the plain meaning, such that the invention could operate with a single core network. ‘277 Patent col. 10:50-52 (“successive control signalings can also be carried out to the *same* core network.”) (emphasis added); *id.* col. 2:62-65 (“The idea underlying the invention is that the connection between the access network and the terminal is not released between substantially successive control singallings between *at least one core network* and the terminal.”) (emphasis added).

Moreover, the specification expressly provides that “[t]he invention is suitable for use in *any telecommunications system* wherein a need exists to carry out a plurality of substantially successive control signalings between a terminal and a telecommunications network.” ‘277 Patent col. 3:59-63 (emphasis added). Given that “any telecommunications system” necessarily includes systems with only a single-service core network, it is clear that whether a single core network has one service or two services is not an inherent limitation of the term.

Additionally, the specification expressly provides that a core network may be responsible for only a single type of service: circuit-switched or packet-switched. *See* ‘277 Patent col. 4:47-48 (“The core network CN1 is responsible for circuit-switched services.”); *id.* col. 4:61-62 (“The core network CN2 is responsible for providing packet-switched services.”).

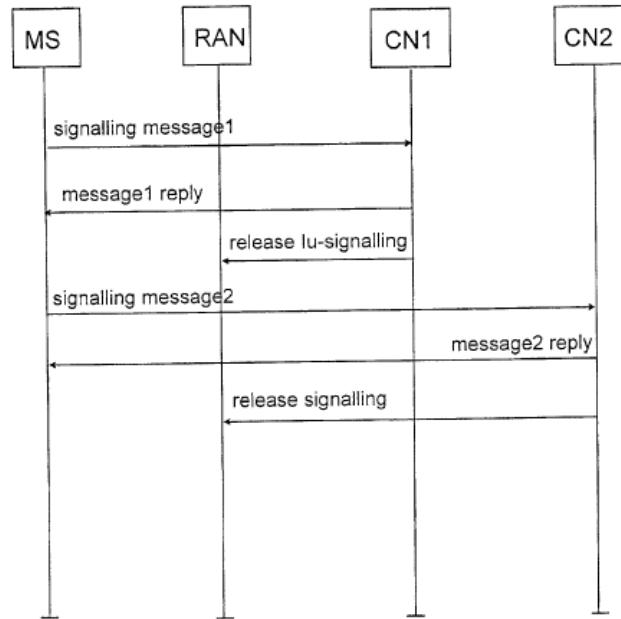
Thus it is clear from the specification that core networks may operate alone, and that a core network may provide only one type of service. Accordingly, no construction is necessary.

**“control signalling”** (‘277 Patent, claims 1, 4, 11, 12, 27)

For this term, Core proposes “plain meaning / no construction necessary.” Doc. No. 108-1 at 11. Apple proposes “the control message over a given signaling connection between a terminal and a core network,” in an effort to provide a construction which makes it possible to “count control signalings as the claims require.” *Id.*; Doc. No. 127 at 6. Core objects to Apple’s inclusion of “between a terminal and a core network” because such language is redundant in view of claim 1, which recites “control signalings between the terminal and at least one core network,” and conflicts with claim language which recites an “access network” in place of a core network. Doc. No. 122 at 8; ‘277 Patent cols. 12:26-27, 12:18.

With respect to counting control signals, Figure 5 demonstrates that a group of messages sent over one instance of a connection is described as one control signaling. *See* ‘277 Patent Fig. 5 (“signalling message 1” and “message 1 reply”). Thus, the first two messages of Figure 5 comprise one controlling signaling, and when the first control signaling is released, a second connection is created such that the next group of messages is a second control signalling. *See* ‘277 Patent Fig. 5 (“signalling message 2” and “message 2 reply”).





To resolve the issue of counting control signals while avoiding redundancy and conflicting limitations, the Court proposed construing “control signaling” as a “control message or messages over a given signalling connection.” 10/03/13 Hr’g Tr. at 27:17-21. At the hearing, the parties generally agreed with the Court’s proposed construction.<sup>2</sup> *Id.* at 27:22-28:2. Accordingly, the Court construes “control signalling” to mean “control message or messages over a given signalling connection.”

**“carrying out the plurality of control signalling . . . without releasing a connection established for control signalling between the terminal and access network”** (‘277 Patent, claim 1); and

**“transmit[ting] a request for maintaining the connection established for control signalling between the terminal and the access network”** (‘277 Patent, claims 4, 27)

The dispute involving these terms does not involve the claim terms themselves. Doc. No. 122 at 9; Doc. No. 127 at 9. Instead, Apple requests a negative limitation that these steps are

<sup>2</sup> Apple also sought “clarification” that “‘signalling connection’ [] refer[s] to the connection between the terminal and the core network.” 10/03/13 Hr’g Tr. at 27:13-15. In view of the plain language of the claim, the Court declines to import this limitation. *See* ‘277 Patent col. 12:19-22 (“[T]he access network is connected to the core networks so that control signalings may be carried out between each core network and each terminal via the access network.”).

performed without the use of the “follow on proceed” function because the ‘277 Patent allegedly disclaims use of “follow on proceed.” *Id.* As such, Apple proposes limiting “this step [to be] performed without using the ‘follow on proceed’ function,” and Core proposes “[p]lain and ordinary meaning / no construction necessary.” Doc. No. 108-1 at 12, 15.

Specifically, Apple asserts that the ‘277 Patent describes an alternative function which maintains the connection to the access network rather than the core network through the use of a “maintain RRC bit” which maintains the radio connection. Doc. No. 127 at 9; ‘277 Patent cols. 2:62-65 (“The idea underlying the invention is that the connection between the access network and the terminal is not released between substantially successive control signalings.”), 7:62-8:8 (“According to a *preferred embodiment* of the invention, the mobile station MS transmits the request to the mobile communication network, *preferably* to the radio network controller RNC, for maintaining the radio connection for later use, *preferably* in connection with an RRC setup request”) (emphasis added). Additionally, Apple alleges that the ‘277 Patent disclaims “follow on proceed” because the specification states that “the ‘follow on proceed’ function is not, however, suitable to be generally used for implementing several control signalings, least of all if the control signaling are directed to different core networks.” ‘277 Patent col. 7:59-62.

Core responds that the language cited by Apple as the basis for its disclaimer argument is not a “blanket disclaimer,” and is neither “clear [nor] unambiguous.” Doc. No. 122 at 10 (“[T]he applicants acknowledge that the prior art GSM system had the ability maintain a connection to a single core network after a location update was transmitted so that other control signaling could immediately flow . . . [T]he applicants are simply stating that the follow on proceed function, as used in the prior art to maintain a connection to a single core network in the context of a location update request, is not the invention of the ‘277 [P]atent.”) (citing *Teleflex, Inc. v. Ficosa N. Am.*

*Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2005)). The Court agrees. There is no clear disclaimer of all functions generically referred to “follow on proceed.” Accordingly, no construction is necessary.

**“means for carrying out control signalling in a telecommunication system via an access network to one or more core networks”** (‘277 Patent, claim 27)

At the hearing, the parties agreed to the function and structure for this term. Accordingly, the function is “carrying out control signalling in a telecommunication system via an access network to one or more core networks;” the structure is “a mobile station including an antenna as shown in Figures 1 and 2 and described at 1:50-62, 2:21-54, 4:20-29 and operating according to the description of the portions of Figures 4 and 5 and 6:6-10; 6:36-10:29 and 11:20-61 that describe operations of the mobile station; and statutory equivalents thereof.” *See* 10/03/13 Hr’g Tr. at 36:3-15.

**“modifying the default forgetting factor”** (‘022 Patent, claims 1, 13 and 17);

**“modify the default forgetting factor”** (‘022 Patent, claim 7);

**“modifying the default forgetting factor”** (‘664 Patent, claims 5 and 18); and

**“modifying the default factor”** (‘664 Patent, claims 11 and 24)

The central issue with these terms is the meaning of “modify.” 10/03/13 Hr’g Tr. at 37:3-6. Core proposes the “[p]lain and ordinary meaning / no construction [is] necessary.” Doc. No. 108-1 at 20-22. Apple alleges that the “claims at issue are tied in concrete ways to the modification approach” such that the “factor” can never be replaced outright. Accordingly, Apple proposes “adjusting the default forgetting favor upwards or downwards by an amount determined by the application of a mathematical computation based on the received indication of signal quality.” 10/03/13 Hr’g Tr. at 37:22-23; Doc. No. 108-1 at 20-22.

First, Apple argues that the patents both provide for a modification based approach and a replacement based approach. ‘022 & ‘664 Patents col. 7:14-21 (describing “correct or refine” allegedly in contrast with “discarded”).<sup>3</sup> Additionally, Apple alleges that the prosecution history of the ‘022 Patent demonstrated a difference between “modify” and “replace.” Doc. No. 127 at 13 (citing the abandoned parent application of the ‘022 Patent, Apple identifies claim 13 which recited “modify” and contrasts it with claim 14 which recited “replace,” arguing that “the inventors intended these as alternative techniques”). Based on these two arguments Apple contends that the claims at issue are directed only to the “modify” embodiment. *Id.* at 14.

Core contends that the plain meaning of “modify” includes “replacing” because modification includes “changing,” and “changing” necessarily includes replacing as a subtype of replacing. Doc. No. 134 at 4-5 (explaining that the language of the abandoned parent application of the ‘022 Patent provides “no evidence that the applicants intended the terms [‘modify’ and ‘replace’] to be mutually exclusive alternatives). Core bolsters its position with an array of citations to the specification demonstrating that many different terms were used to describe “changing” the “factor.” Doc. No. 134 at 4; ‘022 Patent cols. 3:26 ( “modify”), 7:3 (“modified or replaced forgetting factor”), Fig. 4 (“adjust or replace”), 1:57 (“replace”), 3:29 (“replace”), 2:2 (“adjusted”), 6:48 (“adjust”), 4:11 (“change”), 6:52 (“refined”), 7:17 (“correct or refine”), 6:65 (“revised”); ‘664 Patents cols. 3:34 ( “modify”), 7:3 (“modified or replaced forgetting factor”), Fig. 4 (“adjust or replace”), 1:61 (“replace”), 3:37 (“replace”), 2:7 (“adjusted”), 6:48 (“adjust”), 4:17 (“change”), 6:51 (“refined”), 7:16 (“correct or refine”), 6:66 (“revised”).

Accordingly, in view of the absence of any evidence which clearly establishes “modify” and “replace” are mutually exclusive, and in view of the myriad of uses of “modify,” “replace,”

---

<sup>3</sup> The ‘664 patent is a continuation of the ‘022 patent, and as a result they share substantially identical specifications.

“adjust,” “change,” refine,” “correct,” and “revise” in the specification of the ‘664 and ‘022 Patents, no construction is necessary.

**“means for sending uplink packet data to the system using a selected channel, wherein the selected channel is either a common channel (RACH) or a dedicated channel (DCH)”** (‘143 Patent, claim 17)

At the hearing, the parties agreed to the function and structure for this term. Accordingly, the function is “sending uplink packet data to the system using a selected channel;” the structure is “antenna 801, switch 802, control unit 803, burst generator 822, modulator RF transmitter 823, as shown in Fig. 8 and in Fig. 6, steps 670 and 690, and as described in the Patent at 7:4-13; 7:17-20; 7:24-28; and statutory equivalents thereof.” *See* 10/03/13 Hr’g Tr. at 55:18-56:13.

**“means for comparing said threshold value of the channel selection parameter to a current value of the channel selection parameter for basis of said channel selection”** (‘143 Patent, claim 17); and

**“means for comparing a current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter”** (‘143 Patent, claim 19)

The parties agree that these terms are means-plus-function limitations governed by 35 U.S.C. § 112(f), and agree that the claimed function for the first term is “comparing said threshold value of the channel selection parameter to a current value of the channel selection parameter for basis of said channel selection,” and the function for the second term is “comparing a current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter.” Doc. No. 108-1 at 15-17.

With respect to the structure for both, Core proposes:

A control unit 803 wherein the control unit 803 is programmed to control the comparison of the threshold value of the channel selection parameter to the current value of the channel selection parameter in accordance with the algorithm shown in Fig. 6, step 650, and described in 6:20-39; 7:17-20; and 7:24-28 of the ‘143 specification.

*Id.* For the first term Apple proposes:

A control unit 803 programmed to compare the threshold value of a channel selection parameter to a current value of the channel selection parameter and provide the comparison result to a channel selection function within the mobile station, wherein the control unit 803 is programmed to control the comparison of the threshold value of the channel selection parameter to the current value of the channel selection parameter in accordance with the algorithm shown in Fig. 6, steps 650-660, and described in 6:20-39; 7:17-20; and 7:24-28 of the '143 specification.

*Id.* For the second term Apple proposes:

A control unit 803 programmed to compare a current value of the data packet size to the computed value of the maximum allowed RLC-PDU size for the RACH channel and provide the result to a channel selection function within the mobile station, wherein the control unit 803 is programmed to control the comparison of the current value of the data packet size to the computed value of the maximum allowed RLC-PDU size for the RACH channel and provide the result to a channel selection function within the mobile station in accordance with the algorithm described in 6:22-47; 7:17-20; and 7:24-28 of the '143 specification.

*Id.*

The central dispute between the parties is whether the “control unit” structure proposed in both Core and Apple’s constructions falls within the rule of *WMS Gaming*, such that the “control unit” is a general purpose processor necessitating an algorithm to further define the structure performing the “comparing” function. *See WMS Gaming Inc. v. Int’l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999) (“In a means-plus-function claim in which the disclosed structure is a computer, or microprocessor, programmed to carry out an algorithm, the disclosed structure is not the general purpose computer, but rather the special purpose computer programmed to perform the disclosed algorithm.”); *see also U.S. Ethernet Innovations, LLC v. Ricoh Americas Corp.*, 6:12-cv-235, Doc. No. 283 at 12 (E.D. Tex. Aug. 20, 2013) (This Court has previously found “that [a] comparator [] is a corresponding structure for [a] ‘comparing function.’”).

Apple argues *WMS Gaming* applies because the “control unit” is a “general purpose processor involving specialized software.” 10/03/13 Hr’g Tr. at 61:23-25. Specifically, Apple points to a portion of the specification which provides that “the control unit that controls the

other blocks executes the block control functions according to specialized software.” ‘143 Patent col. 7:25-26.

It appears that Core essentially agrees with Apple regarding the structure, except that Core seeks to avoid a finding that the “control unit” falls within the rule of *WMS Gaming*, and therefore does not require reference to an “algorithm” within the construction. *See* 10/03/13 Hr’g Tr. at 67:14-18 (Mr. Allison, for Core, argued that “the dispute is a fairly narrow one we’re having here. We have agreed that that’s the description of the particular control unit 803, and we’re not contesting that and are content to say that’s what we should show the jury. I guess the slight disagreement that we have remaining is that we – we are concerned that because casting this *WMS Gaming* language, that the jury might think that it has to be some sort of exact replica of an algorithm in the specification and not allow the full scope of the invention.”). Additionally, Core does not object to the Court’s removal of references to figures and the specification which Core intended as mere examples of the things which the “control unit” controls. *See* 10/03/13 Hr’g Tr. at 59:25-60:2, 66:3-4 (Core indicating agreement with the Court’s proposed construction).

Specifically, Core argues that language describing how “the control unit that controls the other blocks executes the block control functions according to special software” does not place “control unit” within the scope of *WMS Gaming* because “it [does not] say that the control unit is a general purpose processor, [only that it] use[s] software.” ‘143 Patent col. 7:25-26; 10/03/13 Hr’g Tr. at 58:16-22. Core also contends that the claim language at issue does not invoke *WMS Gaming* because the specification makes a merely “technical point” “that [the] ‘special’ means that the control unit controls [are] sending, . . . receiving, and [also] comparing.” 10/03/13 Hr’g Tr. at 58:25-59:5.

Given Core's general agreement with the structure identified by Apple, and the examples provided with respect to that structure in the specification, the Court finds that the rule of *WMS Gaming* is applicable to the "control unit" because the "control unit" "controls" as directed by "special software." '143 Patent col. 7:25-28 (referring to Figure 8, the specification provides that "the *control unit that controls the other blocks* executes the block control functions according to *special software*, thus realizing the above-described block functions according to the invention.") (emphasis added); *see also* '143 Patent cols. 7:4-42 (describing how the control unit, using "special software," controls other blocks such as "block 833 [which] performs signal processing and block 820 [which] encrypts the processed signal [and] block 821 [which] interleaves the signal [and] block 822 [all of] which are modulated and amplified into a RF signal in block 823 [which is] transmitted [by the] antenna 801 by means of switch 802").

Thus, in view of the agreement between Core and Apple, as well as the disclosure of "special software," the algorithm provided in Figure 6, and the vague description of "control unit," the Court finds that the structure disclosed in the specification which performs the claimed function includes an algorithm executed by "control unit" 803. '143 Patent col. 7:25-26 ("[T]he control unit that controls the other blocks executes the block control functions according to special software."); *id.* Fig. 6; *id.* col. 5:58-60 ("FIG. 6 shows a flow chart of a method according to the invention for transferring packet data."); Doc. No. 108-1 at 15-17 (both Core's and Apple's proposed construction reference "Fig. 6" with respect to how the "control unit 803" controls); *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d at 1348 ("The instructions of the software program that carry out the algorithm electrically change the general purpose computer by creating electrical paths within the device. These electrical paths create a special purpose



machine for carrying out the particular algorithm”) (citing *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994)).

Accordingly, the Court construes the means-plus-function limitation as follows: the function for the first term is “comparing said threshold value of the channel selection parameter to a current value of the channel selection parameter for basis of said channel selection;” the function for the second term is “comparing a current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter;” the structure for the first terms is:

A control unit 803 wherein the control unit 803 is programmed to control the comparison of the threshold value of the channel selection parameter to the current value of the channel selection parameter in accordance with the algorithm shown in Fig. 6, step 650, and described in 6:20-39; 7:17-20; and 7:24-28 of the ‘143 specification; and statutory equivalents thereof; and

the structure for the second term is:

A control unit 803 wherein the control unit 803 is programmed to control the comparison of the current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter, in accordance with the algorithms shown in Fig. 6, steps 650, and described in 6:20-39; 7:17-20; and 7:24-28 of the ‘143 specification; and statutory equivalents thereof.

**“means for making said channel selection on the basis of the result of said comparison”** (‘143 Patent, claim 18); and

**“means for making said channel selection on the basis of said comparison”** (‘143 Patent, claim 19)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function for the first term is “making said channel selection on the basis of the result of said comparison,” and the function for the second term is “making said channel selection on the basis of said comparison.” Doc. No. 108-1 at 17-18.

With respect to the structure, for both terms Core proposes:

Antenna 801, switch 802, control unit 803 which controls RLC/MAC layer and RRC layer, RF receiver 811, detection demodulator 812, burst generator 822, modulator RF transmitter 823, as shown in Fig. 8 and in Fig. 6, steps 660, 670, 680, 690, and as described in the Patent at 6:15-43; 6:56-62; 7:1-20; 7:24-28.

*Id.* For the first term Apple proposes:

A control unit 803 which controls the RLC/MAC layer in the mobile and the RRC layer in the mobile to make the channel selection on the basis of the result of the comparison in the mobile in accordance with the algorithm shown in Fig. 6, steps 650-660, and described in 6:14-43; 7:12-13; 7:17-20; and 7:24-28 of the '143 specification.

*Id.* For the second term Apple proposes:

A control unit 803 programmed to make a channel selection on the basis of the received result of the comparison of a current value of the data packet size and the computed value of the maximum allowed RLC-PDU size for the RACH channel, wherein the control unit 803 is programmed to make the channel selection in accordance with the algorithm described in 6:22-47; 7:17-20; and 7:24-28 of the '143 specification.

*Id.*

The central issue and arguments are the same as with “means for comparing said threshold value of the channel selection parameter to a current value of the channel selection parameter for basis of said channel selection;” and “means for comparing a current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter,” above. ‘143 Patent col. 9:5-16, 10:1-10; *see* 10/03/13 Hr’g Tr. at 77:10-26 (Apple and Core agreeing that “the arguments are essentially [] the same for [20a and] 20b” as well as for 21a and 21b). Accordingly, the Court construes the means-plus-function limitation as follows: the function for the first term is “making said channel selection on the basis of the result of said comparison;” the function for the second term is “making said channel selection on the basis of said comparison;” the structure for both terms is “a control unit 803 wherein the control unit 803 is programmed in accordance with the algorithms shown in Fig. 6, steps 650-660, and

described in 6:14-43; 7:12-13; 7:17-20; and 7:24-28 of the ‘143 specification; and statutory equivalents thereof.”

**“means for receiving a threshold value of a channel selection parameter from the system”**  
(‘143 Patent, claim 17)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function is “receiving a threshold value of a channel selection parameter from the system.” Doc. No. 108-1 at 14-15

With respect to the structure, Core proposes:

An antenna 801, switch 802, control unit 803, RF receiver 811, and detection demodulator 812, as shown in Fig. 8, for receiving a threshold value of a channel selection parameter from the system, where the control unit 803 controls the reception blocks in accordance with the description in 6:56-62; 7:1-3; 7:14-17; and 7:24-28 of the ‘143 specification.

*Id.* Apple proposes:

An antenna 801, switch 802, control unit 803, RF receiver 811, and detection demodulator 812, as shown in Fig. 8, for receiving a threshold value of a channel selection parameter from the system, where the control unit 803 is programmed to control the reception blocks in accordance with the algorithm described in 6:56-62; 7:1-3; 7:14-17; and 7:24-28 of the ‘143 specification.

*Id.*

The central issue and arguments are the same as with “means for comparing said threshold value of the channel selection parameter to a current value of the channel selection parameter for basis of said channel selection;” “means for comparing a current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter;” “means for making said channel selection on the basis of the result of said comparison,” and “means for making said channel selection on the basis of said comparison,” above. ‘143 Patent col. 9:5-16, 10:1-10; 9:17-20; *see* 10/03/13 Hr’g Tr. at 78:6-11 (Core noted that it agreed to the Court’s proposed constructions for “means for storing said threshold value of

the channel selection parameter” and “means for receiving a threshold value of a channel selection parameter from the system,” except that “it look[ed] like there may be the same issues with algorithms on ‘means for receiving a threshold value of a channel selection parameter from the system’” as there were with “means for making said channel selection on the basis of the result of said comparison” and “means for making said channel selection on the basis of said comparison”); *id.* 80:8-13 (“For [‘means for receiving a threshold value of a channel selection parameter from the system’ Apple offered that it] absolutely could agree [to the Court’s ‘preliminary proposal’], [a]nd [reiterated that it] believes the algorithm references are correct.”).

In view of the Courts construction for “means for making said channel selection on the basis of the result of said comparison” and “means for making said channel selection on the basis of said comparison,” the Court accordingly construes the means-plus-function limitation as follows: the function is “receiving a threshold value of a channel selection parameter from the system;” the structure is:

An antenna 801, switch 802, control unit 803, RF receiver 811, and detection demodulator 812, as shown in Fig. 8, for receiving a threshold value of a channel selection parameter from the system, where the control unit 803 is programmed to control the reception blocks in accordance with the algorithm described in 6:56-62; 7:1-3; 7:14-17; and 7:24-28 of the ’143 specification; and statutory equivalents thereof.

**“means for storing said threshold value of the channel selection parameter”** (’143 Patent, claim 17)

At the hearing, the parties agreed to the function and structure for this term. Accordingly, the function is “storing said threshold value of the channel selection parameter,” and the structure is “a memory 804 for storing said threshold value of the channel selection parameter, as described in 5:60-62 and 6:64-7:1 of the ’143 specification; and statutory equivalents thereof.” *See* 10/03/13 Hr’g Tr. at 79:22-24 (Core agreeing with the Court’s proposed construction for “means for storing said threshold value of the channel selection parameter”); *id.* at 80:11-13 (“For

. . . ‘means for storing said threshold value of the channel selection parameter’ . . . Apple] absolutely could agree, your Honor. And again, we believe the algorithm references are correct.”).

**“means for calculating a value corresponding to the channel selection parameter on the basis of the parameters of the data packet to be sent”** (‘143 Patent, claim 19)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function is “calculating a value corresponding to the channel selection parameter on the basis of the parameters of the data packet to be sent.” Doc. No. 108-1 at 18.

With respect to the structure, Core proposes “[a] control unit 803, which controls the RLC/MAC layer, as shown in Fig. 8 and as described at 6:20-26; 7:24-28.” *Id.* Apple proposes:

A control unit 803 programmed to compute a threshold value of maximum allowed RLC-PDU size for the RACH channel via a mathematical operation using the received channel selection parameter and bit error rate as an input, wherein the control unit 803 is programmed to control calculating the value in accordance with the algorithm described in 6:39-47; 7:17-20; and 7:24-28 of the ‘143 specification.”

*Id.*

Apple agrees with the Court’s proposed construction. 10/03/13 Hr’g Tr. at 80:11-13 (“Yes. For [‘means for calculating a value corresponding to the channel selection parameter on the basis of the parameters of the data packet to be sent’] we absolutely could agree, your Honor. And again, we believe the algorithm references are correct.”). Core acknowledges that the arguments with respect to “means for calculating a value corresponding to the channel selection parameter on the basis of the parameters of the data packet to be sent” are the same as they were with respect to the “algorithm” proposed as part of the construction regarding “means for receiving a threshold value of a channel selection parameter from the system.” *Id.* at 78:7-11 (“For [‘means for receiving a threshold value of a channel selection parameter from the system’]

it looks like there may be the same issues with algorithms”); *id.* at 78:22-79:11 (Core acknowledged that the arguments with respect to “means for calculating a value corresponding to the channel selection parameter on the basis of the parameters of the data packet to be sent” would be the same as with “means for receiving a threshold value of a channel selection parameter from the system” because of the reference to algorithms.).

In view of the Court’s construction with respect to “means for receiving a threshold value of a channel selection parameter from the system” the Court accordingly construes the means-plus-function limitation as follows: the function is “calculating a value corresponding to the channel selection parameter on the basis of the parameters of the data packet to be sent;” the structure is “a control unit 803 wherein the control unit 803 is programmed to control calculating the value in accordance with the algorithm described in 6:39-47; 7:17-20; and 7:24-28 of the ‘143 specification; and statutory equivalents thereof.”

**“dynamic configurations”** (’959 Patent, claims 1, 3, 4, 8, 10, 11, 15, 19)

Core proposes “[p]redefined configurations communicated to the mobile station on System Information Block (SIB) type 16.” Doc. No. 122 at 22. Apple proposes “[c]onfigurations provided at or near the time of handover.” *Id.* The central issue is whether “dynamic” requires the configurations to be provided at or near the time of handover.

Core’s argument focuses on static versus dynamic configurations. *See* Doc. No. 134 at 8-9 (“The ‘959 Patent defines ‘dynamic configuration’ in contrast to the term ‘static configuration’”); *see also* ‘959 Patent cols. 6:20-23 (“known in advance”), 6:58-62 (describing “predefined (static) preconfigurations”); 7:22-47 (describing “hardcoded preconfigurations” that “need not [be] sen[t] to the mobile station” and “certain specific (static) preconfiguration[s]” that the “GSM network can refer to”), and 12:63-13:1 (describing the default use of “hardcoded[]

preconfiguration parameters and their values (stored in the memory of the mobile station))). Specifically, Core argues that “dynamic configurations are ‘additional’ parameters that ‘are not a priori known to the mobile station and so must be communicated to the mobile station.’” Doc. No. 134 at 8 (citing ‘959 Patent col. 6 23:24). While the Court agrees with Core’s characterization of “dynamic configurations” as not a priori known to the mobile station, the specification only provides that dynamic information *may* be provided by SIB type 16, but does not necessarily require that SIB type 16 only provide dynamic information, as might be inferred from Core’s proposed construction. ‘959 Patent col. 1:66-2:6 (The Patent describes the “SIB type 16 [as] contain[ing] radio bearer, transport channel, and physical channel parameters to be held in memory by the UE. System information is specified to contain a preconfiguration identity and a value tag to identify a certain dynamic configuration as well as updates to dynamic configurations, if needed.”).

Apple does not appear to disagree with Core’s characterization of “a priori known,” and instead focuses on the duration of time before the parameters become known to the mobile station. *See* 10/03/13 Hr’g Tr. 85:7-12 (Apple is “in general agreement with [the Court on] the basic premise there on a configuration; but [Apple] think[s] it’s import to add, consistent with the ordinary meaning of this term and its use in the specification, that the configurations are communicated ‘at or near the time of handover.’”). Apple relies primarily on the section in the background which recites “at or near the time of handover.” Doc. No. 127 at 20-21; ‘959 Patent col. 1:53-57. However, the idea that “dynamic” imposes a narrow temporal limitation is unsupported by the specification, particularly in view of Core’s citations to evidence distinguishing configurations which are “hardcoded” from those which are not. *See* Doc. No. 134 at 8 (citing ‘959 Patent cols. 6:19-23 (“Dynamic configuration parameters, as opposed to

static preconfiguration parameters (organized into sets, each set describing a particular configuration, the sets specified by a standard and so known in advance to any mobile able to operate in a UTRAN cell), are not a priori known to the mobile station and so must be communicated to the mobile station.”), 6:58-62, 7:22-47, and 12:63-13:1).

In view of Core’s and Apple’s general agreement a dynamic configuration is not hardcoded, and therefore not a priori known, the Court arrives at its own construction. Accordingly, the Court construes “dynamic configurations” to mean “a configuration that is not a priori known to the mobile station and so must be communicated from the base station to the mobile station.”

**“means (56) for receiving a broadcast control signal issuing from a base station to which the mobile station is being handed over by another base station and for performing an error check of the broadcast control signal”** (’959 Patent, claim 19)

At the hearing, Core was “fine with the proposal of the court” and Apple offered that it had “nothing further beyond [its] briefing that would be helpful.” 10/03/13 Hr’g Tr. 95:17-20. In the briefing the parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function is “receiving a broadcast control signal issuing from a base station to which the mobile station is being handed over by another base station and for performing an error check of the broadcast control signal.” Doc. No. 108-1 at 9.

With respect to the structure, Core proposes “The receiver/decoder 56, which includes a receiver 53, decoder 54, and antenna 52 as shown in Fig. 5 and described in the Patent at 13:7-20.” *Id.* Apple proposes “The receiver/decoder (56) configured as shown in Fig. 5.” *Id.*

The primary dispute is whether the use of the reference number “56” in the claim language prevents the structure from including the antenna which is not in block 56 of Figure 5. Specifically, Figure 5 of the ’959 Patent shows the “[a]ntenna” as reference number 52, outside



of the “[r]eceiver / decoder” corresponding to the dashed line defining the area of reference number 56.

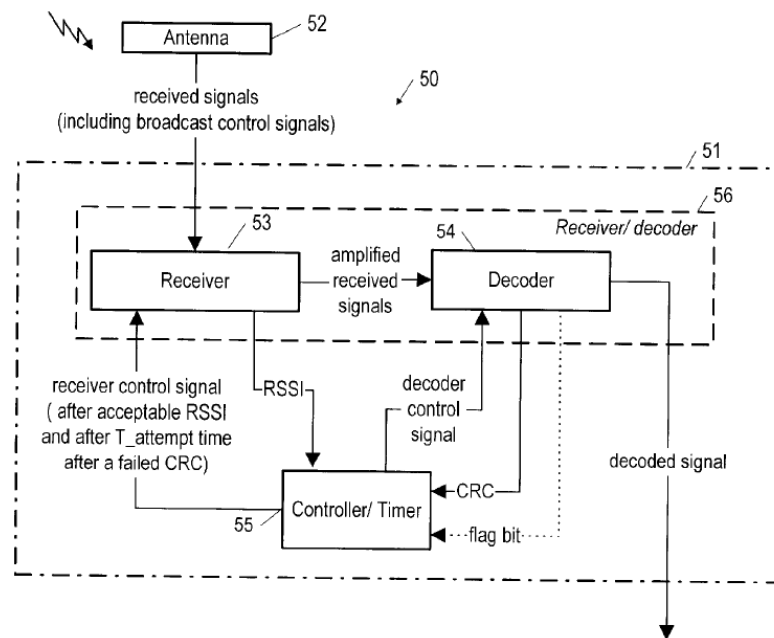


Fig. 5

Core cites the Manual of Patent Examining Procedure § 608.01(m) for the proposition that “the use of reference characters is to be considered as having no effect on the scope of claims.” Doc. No. 122 at 23 (citing *EasyCare, Inc. v. Lander Indus.*, No. 4:08-cv-665, 2011 U.S. Dist. LEXIS 130241 at \*28 (D. Arz. Nov. 8, 2011)). Apple does not respond to this particular argument. Moreover, there is no doubt that the antenna 52 receives signals for receiver 53 within receiver / decoder 56 because Figure 5 specifies “received signals” immediately beneath the antenna box.

Accordingly, the Court construes the means-plus-function limitation as follows: the function is “receiving a broadcast control signal issuing from a base station to which the mobile station is being handed over by another base station and for performing an error check of the

broadcast control signal;” the structure is “the receiver/decoder 56 (which includes a receiver 53 and decoder 54) and antenna 52 as shown in Fig. 5 and described in the Patent at 13:7-20; and statutory equivalents thereof.”

**“means (55), responsive to the error check of the broadcast control signal, for either reading any dynamic configuration indicated by the broadcast control signal or waiting until a predetermined time and then activating the means for receiving the broadcast control signal, depending on the error check”** (’959 Patent, claim 19)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function is “responsive to the error check of the broadcast control signal, either reading any dynamic configuration indicated by the broadcast control signal or waiting until a predetermined time and then activating the means for receiving the broadcast control signal, depending on the error check.” Doc. No. 108-1 at 9-10.

With respect to the structure, Core proposes “[t]he decoder 54 and controller/timer 55 as shown in Fig. 5 and described in the Patent at 13:24-46.” *Id.* Apple proposes:

The controller/timer (55) configured as shown in Fig. 5 such that either:  
(1) if the error check does not indicate an error, the controller/timer will cause the receiver/decoder to read any dynamic configuration indicated by the broadcast control signal; or  
(2) if the error check indicates an error, the controller/timer will wait until a predetermined time and then cause the receiver/decoder to attempt to read the broadcast control signal.

*Id.*

The issues here are similar to those raised with respect to the “[a]ntenna” of Figure 5, as detailed above with respect to “means (56) for receiving a broadcast control signal issuing from a base station to which the mobile station is being handed over by another base station and for performing an error check of the broadcast control signal” (’959 Patent, claim 19).”

The claimed function includes “reading any dynamic configuration” indicated by the broadcast signal, and the inclusion of such language implicates more than the controller / timer

(55), but also includes the decoder (54). '959 Patent col. 18:49-50. Therefore, in view the Court's above construction, the Court accordingly construes the means-plus-function limitation as follows: the function is "responsive to the error check of the broadcast control signal, either reading any dynamic configuration indicated by the broadcast control signal or waiting until a predetermined time and then activating the means for receiving the broadcast control signal, depending on the error check;" the structure is "the decoder 54 and controller/timer 55 as shown in Fig. 5 and described in the Patent at 13:24-46; and statutory equivalents thereof."

**"means for decrypting said information by means of a decryption key"** ('860 Patent, claim 9)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function is "decrypting said information by means of a decryption key." Doc. No. 108-1 at 1.

With respect to the structure, Core proposes:

An intelligent module (such as a smart card or SIM) 940, as shown in Figure 9 and described in the '860 Patent at 3:66-4:3; 6:57-63; 8:25-27 which may include encryption block 150 as shown in Figure 10[; or]  
Logical blocks 312-314 of mobile station 31, as described in the '860 Patent at 6:57-63[; or]  
Control unit 903 as shown in Figure 9 and as described in the '860 Patent at 6:57-63 and 8:25-27.

*Id.* Apple proposes "[a]n encryption block of an intelligent module SIM." *Id.* The issue with respect to these proposed structures is whether decryption is limited to an intelligent module SIM, or if decryption can be performed by other structures as well." *Id.*

Apple readily admits that the structure for decryption is the logical block. 10/03/13 Hr'g Tr. 99:20-21 ("the Patent just gives a generic statement that the encryption could be done in an

intelligent module.”)<sup>4</sup> Specifically, Apple argues that “the *only* structure that the specification describes for decrypting data is the *encryption block* of the ‘intelligent module SIM’” Doc. No. 127 at 25 (emphasis original) (citing ‘860 Patent col. 8:59-61 (“In addition, the SIM module comprises an encryption block 150 for encrypting and decrypting transmitted and stored data.”)).

Core cites to various portions of the specification which clearly indicate the inventors contemplate that decryption can be done in a variety of intelligent modules within the mobile unit, or by the control unit 903. Doc. No. 122 at 27 (citing ‘860 Patent cols. 6:57-63, 8:25-27, and Fig. 3). In fact, the ‘860 Patent expressly provides that:

Decryption and location calculation *may* take place in a mobile station’s intelligent module if it is desirable to keep the base station location information confidential. In that case, the logic blocks 312-314 in FIG. 3 are found in the intelligent module. If confidentiality is not required, the functions in question can also be realized elsewhere in the mobile station.

‘860 Patent col. 6:57-63 (emphasis added).

Additionally, Apple seeks to limit “intelligent module” to just “intelligent module SIM.” See Doc. No. 127 at 25. However, in view of the entire specification it is clear that “intelligent module” is not limited only to SIMS, as evidenced by the generic reference to an “intelligent module,” reference to an “intelligent module [as] say, [a] smart card,” as well as the reference to a “SIM.” ‘860 Patent col. 6:57-59; 4:1; 8:50. Accordingly, the record does not reflect that an “intelligent module” is only a SIM, and Core’s proposed structure more accurately reflects the specification.

---

<sup>4</sup> Notably, in view of this admission, Apple’s argument that “the problem with reading in the ‘logical blocks’ is that they merely recite function, they don’t recite structure” rings hollow. 10/03/13 Hr’g Tr. 100:18-20; *see also* 10/03/13 Hr’g Tr. 108:15-110:6 (Core, correctly pointing out, that “the decryption algorithms would be very well aware to someone of ordinary skill in the art,” and that “[n]o one has said that the inventors of the ‘860 Patent invented decryption,” based in part on citation to the “Mouly reference.”).

In view of the various structures that can perform decryption, the Court construes the means-plus-function limitation as follows: the function is “decrypting said information by means of a decryption key;” the structure is:

- (1) An intelligent module (such as a smart card or SIM) 940, as shown in Figure 9 and described in the '860 Patent at 3:66-4:3; 6:57-63; 8:25-27 which may include encryption block 150 as shown in Figure 10; or
- (2) Logical blocks 312-314 of mobile station 31 or the logical blocks 312-314 of an intelligent module, as either is described in the '860 Patent at 6:37-66; or
- (3) Control unit 903 as shown in Figure 9 and as described in the '860 Patent at 6:57-63 and 8:25-27; and
- (4) Statutory equivalents thereof.

**“means for receiving from the mobile station encrypted information related to a service”** ('860 Patent, claim 12)

At the hearing, the parties agreed to the function and structure for this term. Accordingly, the function is “receiving from the mobile station encrypted information related to a service,” and the structure is “bus adapter DATA-I/O 120 of an intelligent module SIM 140 as shown in Figure 10 and described in the '860 Patent at 8:56-58; and statutory equivalents thereof.”<sup>5</sup>

**“means for decrypting said information by means of a decryption key”** ('860 Patent, claim 12); and

**“means for decrypting base station location information using said decryption key”** ('860 Patent, claim 13)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function for the first term is “decrypting said information by means of a decryption key,” and for the second term is “decrypting base station location information using said decryption key.” Doc. No. 108-1 at 3.

With respect to the structure, Core proposes “[e]ncryption block 150 of an intelligent module (such as a smart card or SIM) as shown in Figure 10 and described in the '860 Patent at

---

<sup>5</sup> The parties represented that the impetus for agreement was Core’s agreement to “remove from the construction the ‘logical blocks’” because Core “believe[s] [this] particular embodiment doesn’t correspond to” logical blocks. 10/03/13 Hr’g Tr. 113:17-18, 113:23-25.

3:66-4:3; 8:59-61.” *Id.* Apple proposes “[e]ncryption block 150 of an intelligent module SIM 140 as shown in Figure 10 and described in the ’860 Patent at 8:59-61.” *Id.* The central issue with these two terms is similar to “means for decrypting said information by means of a decryption key,” above.

In view of the Court’s finding that an “intelligent module” need not only be the intelligent module of a SIM<sup>6</sup> and the Court’s construction regarding “means for decrypting said information by means of a decryption key” in claim 9 of the ’860 Patent, the Court accordingly construes the means-plus-function limitation as follows: the function for the first term is “decrypting said information by means of a decryption key;” the function for the second term is “decrypting base station location information using said decryption key;” the structure for both terms is “encryption block 150 of an intelligent module (such as a smart card or SIM) as shown in Figure 10 and described in the ’860 Patent at 3:66-4:3; 8:59-61; and statutory equivalents thereof.”

**“means for receiving said decryption key or data needed to construct said decryption key from the mobile station related to a location update procedure”** (’860 Patent, claim 12);

**“means for receiving said decryption key from the mobile station related to a location update procedure”** (’860 Patent, claim 14); and

**“means for receiving a decryption key or data needed to construct said decryption key from the mobile station together with a key or data needed to construct the next decryption key”** (’860 Patent, claim 13)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function for the first term is “receiving said decryption key or data needed to construct said decryption key from the mobile station related to a location update procedure,” the function for the second term is “receiving said decryption key

---

<sup>6</sup> At the hearing Core was “fine” with the Court’s proposed construction while Apple merely reiterated its request that the “construction be modified to confirm that it is an ‘intelligent module SIM’ for the same reasons that were [] discussed” above. 10/03/13 Hr’g Tr. 114:11, 114:14-16.

from the mobile station related to a location update procedure,” and the function for the third term is “receiving a decryption key or data needed to construct said decryption key from the mobile station together with a key or data needed to construct the next decryption key” Doc. No. 108-1 at 4-7.

With respect to the structure, Core proposes:

Bus adapter DATA-I/O 120 of an intelligent module (such as a smart card or SIM) as shown in Figure 10 and described in the '860 Patent at 3:66-4:3; 8:56-58[; or]

Logical blocks 313, 314 of an intelligent module (such as a smart card or SIM) as shown in Figure 3 and described in the '860 Patent at 3:66-4:3; 8:24-27; 6:59-61.

*Id.* For the first term Apple proposes:

Bus adapter DATA-I/O **120** of an intelligent module SIM **140** as shown in Figure 10 and described in the '860 Patent at 8:56-58 and a CPU of an intelligent module SIM programmed to receive a decryption key or data needed to construct the decryption key extracted from a location update acknowledge message.

*Id.* For the second term Apple proposes “[b]us adapter DATA-I/O **120** of an intelligent module SIM **140** as shown in Figure 10 and described in the '860 Patent at 8:56-58 and a CPU of an intelligent module SIM programmed to receive a decryption key extracted from a location update acknowledge message.” *Id.* For the third term Apple proposes “[b]us adapter DATA-I/O **120** of an intelligent module SIM **140** as shown in Figure 10 and described in the '860 Patent at 8:56-58.” *Id.*

In view of the Court’s finding that an “intelligent module” need not only be the intelligent module of a SIM,<sup>7</sup> the Court accordingly construes the means-plus-function limitation as follows: the function for the first term is “receiving said decryption key or data needed to construct said decryption key from the mobile station related to a location update procedure;” the

---

<sup>7</sup> At the hearing the parties agreed that the arguments related to these three terms were entirely focused on the scope of “intelligent module” and therefore the same as those arguments already addressed. *See* 10/03/13 Hr’g Tr. 114:24-116:11.

function for the second term is “receiving said decryption key from the mobile station related to a location update procedure,” the function for the third term is “receiving a decryption key or data needed to construct said decryption key from the mobile station together with a key or data needed to construct the next decryption key;” and the structure for all three terms is:

- (1) Bus adapter DATA-I/O 120 of an intelligent module SIM 140 as shown in Figure 10 and described in the '860 Patent at 8:56-58; or
- (2) Logical blocks 313, 314 of an intelligent module (such as a smart card or SIM) as shown in Figure 3 and described in the '860 Patent at 3:66-4:3; 8:24-27; 6:59-61; and
- (3) Statutory equivalents thereof.

**“means for calculating the location of the mobile station on the basis of time difference information and base station location information”** ('860 Patent, claim 15)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function is “calculating the location of the mobile station on the basis of time difference information and base station location information.” Doc. No. 108-1 at 7.

With respect to the structure, Core proposes “[l]ogical block 312 of an intelligent module (such as a smart card or SIM) as shown in Figure 3 and described in the '860 Patent at 3:66-4:3; 6:41-42; 6:57-61.” *Id.* Apple proposes “[a] memory of an intelligent module SIM and a CPU of an intelligent module SIM programmed to compute the location of the mobile station via a mathematical operation using time difference and base station location information as an input, as described in 2:23–57.” *Id.*

Core argues that because the '860 Patent provides that “[i]t should also be noted that the invention is also applicable in conjunction with the differential GPS location system,” which is different than observed time difference (“OTD”), such that the construction should not be limited to a “particular observed time difference calculation.” 10/03/13 Hr’g Tr. 118:10-17 (quoting '860 Patent col. 9:34-35). Apple responds that the construction “should be limited to the



algorithms that are disclosed in the specification,” and further notes that in so far as “logical blocks” are at issue in this construction, that they should “be removed.” 10/03/13 Hr’g Tr. 118:19-24.

The specification of the ‘860 Patent details how “the location of the mobile station can be determined” with OTD. ‘860 Patent col. 2:1-2; *see also* 860 Patent col. 2:23-57 (describing OTD). In addition to the portion of the specification cited by Core, the specification also provides that OTD may be used such that “[i]f other additional methods are used, it is possible to use the time difference measured for signals received from only two base stations.” ‘860 Patent col. 2:52-54. Thus it is clear that the specification provides for use of location identification schemes other than OTD alone, and in fact envisions at least the use of differential GPS also. *See also* 10/03/13 Hr’g Tr. 118:10-17 (Core quoting ‘860 Patent col. 9:34-35).

In view of the Court’s finding with respect to “logical blocks,” the Court accordingly construes the means-plus-function limitation as follows: the function is “calculating the location of the mobile station on the basis of time difference information and base station location information;” the structure is:

- (1) A memory of an intelligent module SIM and a CPU of an intelligent module SIM programmed to compute the location of the mobile station via (A) a mathematical operation using time difference and base station location information as an input, as described in 2:23–57, or (B) a differential GPS location operation as described at 9:34-40; or
- (2) Logical blocks 312 of an intelligent module (such as a smart card or SIM) as shown in Figure 3 and described in the ‘860 Patent at 3:66-4:3; 8:24-27; 6:59-61; and
- (3) Statutory equivalents thereof.

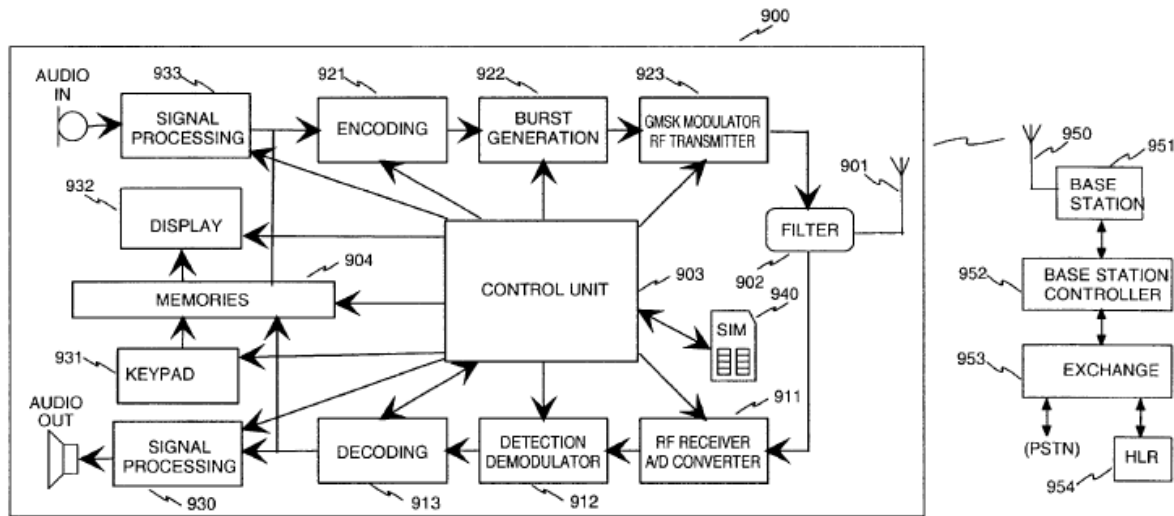
**“means for receiving on a broadcast channel information related to a service”** (‘860 Patent, claim 9)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function is “receiving on a broadcast channel information related to a service.” Doc. No. 108-1 at 1.

With respect to the structure, Core proposes “[a]ntenna 901, a duplex filter 902, and an RF receiver 911, as shown in Figure 9 and further described in the ’860 Patent at 8:15-19.” *Id.* Apple proposes “[a]n antenna, a duplex filter, an RF receiver, a detection modulator, a decoding block, and a control unit programmed in accordance with Fig. 6.” *Id.*

The issue is whether the modulator, decoder, and control unit should be included in the corresponding structure. Specifically, Apple argues that “for the decryption there’s no algorithm [and] for the receiving there is an algorithm, but that [which] is shown in Figure 6[, and according requests that the Court] reference Figure 6.” 10/03/13 Hr’g Tr. 119:10-13.

In its briefing Core objected to Apple’s inclusion of a “detection modulator,” “decoding block,” and “control unit.” Doc. No. 122 at 26. However, at the hearing Core agreed to the inclusion of these terms. 10/03/13 Hr’g Tr. 119:3-4 (“Core Wireless accepts the proposal of the court.”). With respect to “control unit” Core argues that “algorithms do not need to be identified,” citing *Sipco, LLC v. Abb, Inc.* for the proposition that “it cannot be the case that all structures that include general purpose computer components are, in fact general purpose computers as contemplated by *Aristocrat* and *WMS Gaming*.” Doc. No. 122 at 26 and n.43 (quoting *Sipco, LLC v. Abb, Inc.*, No. 6:11-cv-0048, 2012 U.S. Dist. LEXIS 106659, at \*91 (E.D. Tex. July. 30, 2012)). Specifically, Core argues that it has “identifie[d] the appropriate components used for *receiving*,” citing the specification and Figure 9 of the ’860 Patent. Doc. No. 122 at 26 (emphasis original) (citing ’860 Patent col. 8:15-19, and Fig. 9).



‘860 Patent Fig. 9.

Core is correct. The control unit is sufficiently specialized by way of extensive structure for receiving identified in Figure 9, including “[t]he mobile station [which] comprises an antenna 901 to receive a radio frequency (RF) signal transmitted by a base station[ and that the] receiver RF signal is directed e.g. through a duplex filter 902 to RF receiver 911 in which the signal is amplified and converted to digital . . . [after which] the location or other service data and the decryption key received from a base station are processed in a control unit 903 or intelligent module 940.” ‘860 Patent 8:15-27. Given that Figure 9 details the aggregate components corresponding to the structure for “receiving,” Apple is also correct, in so far as it argues that the reception of the channel information and the decryption keys require not just the signal blocks (antenna, filter, etc), but also the blocks that take the data bits and provide the information and keys. Doc. No. 127 at 25-26; *see* ‘860 Patent col 8:28-30 (the specification refers to the antenna 901, duplex filter 902, demodulation block 912, and memory 904 collectively as “reception blocks,” and provides that “the control unit controls the above-mentioned reception blocks”); *see also Sipco, LLC v. Abb, Inc.*, No. 6:11-cv-0048, 2012 U.S. Dist. LEXIS 106659, at \*91 (E.D.

Tex. Jul. 30, 2012) (“[I]t cannot be the case that all structures that include general purpose computer components are, in fact, general purpose computers as contemplated by *Aristocrat* and *WMS Gaming*. While it is true that the "site controller" is made of general purpose computer components, in the aggregate, these components do not amount to a ‘general purpose computer.’”).

Accordingly, the Court construes the means-plus-function limitation as follows: the function is “receiving on a broadcast channel information related to a service;” the structure is “antenna 901, a duplex filter 902, an RF receiver 911, a detection modulator 912, a decoding block 913, and a control unit 903, as shown in Figure 9 and further described in the ’860 Patent at 8:15-21; and statutory equivalents thereof.”

**“means for receiving said decryption key or data needed to construct said decryption key together with a key or data needed to construct the next decryption key on a channel assigned to said mobile station in connection with a location update procedure”** (’860 Patent, claim 9)

The parties agree that this term is a means-plus-function limitation governed by 35 U.S.C. § 112(f), and agree that the claimed function is “receiving said decryption key or data needed to construct said decryption key together with a key or data needed to construct the next decryption key on a channel assigned to said mobile station in connection with a location update procedure.” Doc. No. 108-1 at 2.

With respect to the structure, Core proposes “[a]ntenna 901, a duplex filter 902, and an RF receiver 911, as shown in Figure 9 and further described in the ’860 Patent at 8:15-19.” *Id.* Apple proposes “[a]n antenna, a duplex filter, an RF receiver, a detection modulator, a decoding block, and a control unit programmed in accordance with Figs. 4 and 8.” *Id.*

The issues presented with respect to structure are essentially the same as those presented by the parties regarding “means for receiving on a broadcast channel information related to a

service,” above. In view of the Court’s findings with respect to “control unit” the Court accordingly construes the means-plus-function limitation as follows: the function is “receiving said decryption key or data needed to construct said decryption key together with a key or data needed to construct the next decryption key on a channel assigned to said mobile station in connection with a location update procedure;” the structure is “antenna 901, a duplex filter 902, an RF receiver 911, a detection modulator 912, a decoding block 913, and a control unit 903, as shown in Figure 9 and further described in the ’860 Patent at 8:15-21; and statutory equivalents thereof.”

**“predetermined period”** (’850 Patent, claims 1, 11, 21)

The Court finds that the parties have not presented a meaningful claim scope dispute. Accordingly, the Court finds no construction of this particular term is necessary at this time.

### CONCLUSION

For the foregoing reasons, the Court interprets the claim language in this case in the manner set forth above. For ease of reference, the Court’s claim interpretations are set forth in Appendix A, attached to this opinion.

**So ORDERED and SIGNED this 17th day of July, 2014.**

  
JOHN D. LOVE  
UNITED STATES MAGISTRATE JUDGE

## APPENDIX A

Term	Construction
<b>U.S. Patent 6,792,277</b>	
<b>“one or more core networks”</b> (‘277 Patent, claims 1 and 27)	No construction is necessary.
<b>“control signalling”</b> (‘277 Patent, claims 1, 4, 11, 12, 27)	Control message or messages over a given signalling connection.
<b>“carrying out the plurality of control signalling . . . without releasing a connection established for control signalling between the terminal and access network”</b> (‘277 Patent, claim 1); and  <b>“transmit[ting] a request for maintaining the connection established for control signalling between the terminal and the access network”</b> (‘277 Patent, claims 4, 27)	No construction is necessary.
<b>“means for carrying out control signalings in a telecommunication system via an access network to one or more core networks”</b> (‘277 Patent, claim 27)	As agreed at the hearing:  <b>Function:</b> Carrying out control signalings in a telecommunication system via an access network to one or more core networks  <b>Structure:</b> A mobile station including an antenna as shown in Figures 1 and 2 and described at 1:50-62, 2:21-54, 4:20-29 and operating according to the description of the portions of Figures 4 and 5 and 6:6-10; 6:36-10:29 and 11:20-61 that describe operations of the mobile station; and statutory equivalents thereof.
<b>U.S. Patent Nos. 7,383,022 &amp; 7,599,664</b>	
<b>“modifying the default forgetting factor”</b> (‘022 Patent, claims 1, 13 and 17);  <b>“modify the default forgetting factor”</b> (‘022 Patent, claim 7);  <b>“modifying the default forgetting factor”</b> (‘664 Patent, claims 5 and 18); and	No construction is necessary.

<p><b>“modifying the default factor”</b> (‘664 Patent, claims 11 and 24)</p>	
<p><b>U.S. Patent No. 6,978,143</b></p>	
<p><b>“means for sending uplink packet data to the system using a selected channel, wherein the selected channel is either a common channel (RACH) or a dedicated channel (DCH)”</b> (‘143 Patent, claim 17)</p>	<p>As agreed at the hearing:</p> <p><b>Function:</b> Sending uplink packet data to the system using a selected channel</p> <p><b>Structure:</b> Antenna 801, switch 802, control unit 803, burst generator 822, modulator RF transmitter 823, as shown in Fig. 8 and in Fig. 6, steps 670 and 690, and as described in the patent at 7:4-13; 7:17-20; 7:24-28; and statutory equivalents thereof.</p>
<p><b>“means for comparing said threshold value of the channel selection parameter to a current value of the channel selection parameter for basis of said channel selection”</b> (‘143 Patent, claim 17); and</p> <p><b>“means for comparing a current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter”</b> (‘143 Patent, claim 19)</p>	<p><b>Function for ‘143 Patent, claim 17:</b> Comparing said threshold value of the channel selection parameter to a current value of the channel selection parameter for basis of said channel selection</p> <p><b>Function for ‘143 Patent, claim 19:</b> Comparing a current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter</p> <p><b>Structure for ‘143 Patent, claim 17:</b> A control unit 803 wherein the control unit 803 is programmed to control the comparison of the threshold value of the channel selection parameter to the current value of the channel selection parameter in accordance with the algorithm shown in Fig. 6, step 650, and described in 6:20-39; 7:17-20; and 7:24-28 of the ‘143 specification; and statutory equivalents thereof</p> <p><b>Structure for ‘143 Patent, claim 19:</b> A control unit 803 wherein the control unit 803 is programmed to control the comparison of the current value of the last channel selection parameter sent to the mobile station to said calculated value of the channel selection parameter, in accordance with the algorithms shown in Fig. 6, steps 650, and described in 6:20-39; 7:17-20; and 7:24-28 of the ‘143</p>

	specification; and statutory equivalents thereof.
<p><b>“means for making said channel selection on the basis of the result of said comparison”</b> (‘143 Patent, claim 18); and</p> <p><b>“means for making said channel selection on the basis of said comparison”</b> (‘143 Patent, claim 19)</p>	<p><b>Function for ‘143 Patent, claim 18:</b> Making said channel selection on the basis of the result of said comparison</p> <p><b>Function for ‘143 Patent, claim 19:</b> Making said channel selection on the basis of said comparison</p> <p><b>Structure:</b> A control unit 803 wherein the control unit 803 is programmed in accordance with the algorithms shown in Fig. 6, steps 650-660, and described in 6:14-43; 7:12-13; 7:17-20; and 7:24-28 of the ‘143 specification; and statutory equivalents thereof.</p>
<b>“means for receiving a threshold value of a channel selection parameter from the system”</b> (‘143 Patent, claim 17)	<p><b>Function:</b> Receiving a threshold value of a channel selection parameter from the system;”</p> <p><b>Structure:</b> An antenna 801, switch 802, control unit 803, RF receiver 811, and detection demodulator 812, as shown in Fig. 8, for receiving a threshold value of a channel selection parameter from the system, where the control unit 803 is programmed to control the reception blocks in accordance with the algorithm described in 6:56-62; 7:1-3; 7:14-17; and 7:24-28 of the ‘143 specification; and statutory equivalents thereof.</p>
<b>“means for storing said threshold value of the channel selection parameter”</b> (‘143 Patent, claim 17)	<p>As agreed at the hearing:</p> <p><b>Function:</b> Storing said threshold value of the channel selection parameter</p> <p><b>Structure:</b> A memory 804 for storing said threshold value of the channel selection parameter, as described in 5:60-62 and 6:64-7:1 of the ‘143 specification; and statutory equivalents thereof.</p>
<b>“means for calculating a value corresponding to the channel selection parameter on the basis of the parameters of the data packet to be sent”</b> (‘143 Patent, claim 19)	<p><b>Function:</b> Calculating a value corresponding to the channel selection parameter on the basis of the parameters of the data packet to be sent</p> <p><b>Structure:</b> A control unit 803 wherein the control unit 803 is programmed to control calculating the value in accordance with the algorithm described in 6:39-47; 7:17-20; and 7:24-28 of the ‘143 specification; and statutory equivalents thereof.</p>



U.S. Patent No. 6,788,959	
<b>“dynamic configurations”</b> (’959 Patent, claims 1, 3, 4, 8, 10, 11, 15, 19)	A configuration that is not a priori known to the mobile station and so must be communicated from the base station to the mobile station.
<b>“means (56) for receiving a broadcast control signal issuing from a base station to which the mobile station is being handed over by another base station and for performing an error check of the broadcast control signal”</b> (’959 Patent, claim 19)	<p><b>Function:</b> Receiving a broadcast control signal issuing from a base station to which the mobile station is being handed over by another base station and for performing an error check of the broadcast control signal</p> <p><b>Structure:</b> The receiver/decoder 56 (which includes a receiver 53 and decoder 54) and antenna 52 as shown in Fig. 5 and described in the patent at 13:7-20; and statutory equivalents thereof.</p>
<b>“means (55), responsive to the error check of the broadcast control signal, for either reading any dynamic configuration indicated by the broadcast control signal or waiting until a predetermined time and then activating the means for receiving the broadcast control signal, depending on the error check”</b> (’959 Patent, claim 19)	<p><b>Function:</b> Responsive to the error check of the broadcast control signal, either reading any dynamic configuration indicated by the broadcast control signal or waiting until a predetermined time and then activating the means for receiving the broadcast control signal, depending on the error check</p> <p><b>Structure:</b> The decoder 54 and controller/timer 55 as shown in Fig. 5 and described in the patent at 13:24-46; and statutory equivalents thereof.</p>
U.S. Patent No. 6,674,860	
<b>“means for decrypting said information by means of a decryption key”</b> (’860 Patent, claim 9)	<p><b>Function:</b> Decrypting said information by means of a decryption key</p> <p><b>Structure:</b></p> <p>(1) An intelligent module (such as a smart card or SIM) 940, as shown in Figure 9 and described in the ’860 Patent at 3:66-4:3; 6:57-63; 8:25-27 which may include encryption block 150 as shown in Figure 10; or</p> <p>(2) Logical blocks 312-314 of mobile station 31, or the logical blocks 312-314 of an intelligent module, as either is described in the ’860 Patent at 6:37-66; or</p> <p>(3) Control unit 903 as shown in Figure 9 and as</p>

	<p>described in the '860 Patent at 6:57-63 and 8:25-27; and</p> <p>(4) Statutory equivalents thereof.</p>
<p><b>“means for receiving from the mobile station encrypted information related to a service”</b> ('860 Patent, claim 12)</p>	<p>As agreed at the hearing:</p> <p><b>Function:</b> Receiving from the mobile station encrypted information related to a service</p> <p><b>Structure:</b> Bus adapter DATA-I/O 120 of an intelligent module SIM 140 as shown in Figure 10 and described in the '860 Patent at 8:56-58; and statutory equivalents thereof.</p>
<p><b>“means for decrypting said information by means of a decryption key”</b> ('860 Patent, claim 12)</p> <p><b>“means for decrypting base station location information using said decryption key”</b> ('860 Patent, claim 13)</p>	<p><b>Function for '860 Patent, claim 12:</b> Decrypting said information by means of a decryption key</p> <p><b>Function for '860 Patent, claim 13:</b> Decrypting base station location information using said decryption key</p> <p><b>Structure:</b> Encryption block 150 of an intelligent module (such as a smart card or SIM) as shown in Figure 10 and described in the '860 Patent at 3:66-4:3; 8:59-61; and statutory equivalents thereof.</p>
<p><b>“means for receiving said decryption key or data needed to construct said decryption key from the mobile station related to a location update procedure”</b> ('860 Patent, claim 12)</p> <p><b>“means for receiving said decryption key from the mobile station related to a location update procedure”</b> ('860 Patent, claim 14)</p> <p><b>“means for receiving a decryption key or data needed to construct said decryption key from the mobile station together with a key or data needed to construct the next decryption key”</b> ('860 Patent, claim 13)</p>	<p><b>Function for '860 Patent, claim 12:</b> Receiving said decryption key or data needed to construct said decryption key from the mobile station related to a location update procedure</p> <p><b>Function for '860 Patent, claim 14:</b> Receiving said decryption key from the mobile station related to a location update procedure</p> <p><b>Function for '860 Patent, claim 13:</b> Receiving a decryption key or data needed to construct said decryption key from the mobile station together with a key or data needed to construct the next decryption key</p> <p><b>Structure:</b></p> <p>(1) Bus adapter DATA-I/O 120 of an intelligent module SIM 140 as shown in Figure 10 and described in the '860 Patent at 8:56-58; or</p> <p>(2) Logical blocks 313, 314 of an intelligent</p>

	<p>module (such as a smart card or SIM) as shown in Figure 3 and described in the '860 Patent at 3:66-4:3; 8:24-27; 6:59-6; and</p> <p>(3) Statutory equivalents thereof.</p>
<p><b>“means for calculating the location of the mobile station on the basis of time difference information and base station location information”</b> ('860 Patent, claim 15)</p>	<p><b>Function:</b> Calculating the location of the mobile station on the basis of time difference information and base station location information</p> <p><b>Structure:</b></p> <p>(1) A memory of an intelligent module SIM and a CPU of an intelligent module SIM programmed to compute the location of the mobile station via (A) a mathematical operation using time difference and base station location information as an input, as described in 2:23–57, or (B) a differential GPS location operation as described at 9:34-40; or</p> <p>(2) Logical blocks 312 of an intelligent module (such as a smart card or SIM) as shown in Figure 3 and described in the '860 Patent at 3:66-4:3; 8:24-27; 6:59-61; and</p> <p>(3) Statutory equivalents thereof.</p>
<p><b>“means for receiving on a broadcast channel information related to a service”</b> ('860 Patent, claim 9)</p>	<p><b>Function:</b> Receiving on a broadcast channel information related to a service</p> <p><b>Structure:</b> Antenna 901, a duplex filter 902, an RF receiver 911, a detection modulator 912, a decoding block 913, and a control unit 903, as shown in Figure 9 and further described in the '860 Patent at 8:15-21; and statutory equivalents thereof.</p>
<p><b>“means for receiving said decryption key or data needed to construct said decryption key together with a key or data needed to construct the next decryption key on a channel assigned to said mobile station in connection with a location update procedure”</b> ('860 Patent, claim 9)</p>	<p><b>Function:</b> Receiving said decryption key or data needed to construct said decryption key together with a key or data needed to construct the next decryption key on a channel assigned to said mobile station in connection with a location update procedure</p> <p><b>Structure:</b> Antenna 901, a duplex filter 902, an RF receiver 911, a detection modulator 912, a decoding block 913, and a control unit 903, as shown in Figure 9 and further described in the</p>

	'860 Patent at 8:15-21; and statutory equivalents thereof.
--	------------------------------------------------------------